



**SBC81700 Series
VIA V4 C7/Eden PICMG 1.0 Full-Size
Single Board Computer
User's Manual**



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If you replace wrong batteries, it causes the danger of explosion. It is recommended by the manufacturer that you follow the manufacturer's instructions to only replace the same or equivalent type of battery, and dispose of used ones.

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ESD Precautions

Computer boards have integrated circuits sensitive to static electricity. To prevent chipsets from electrostatic discharge damage, please take care of the following jobs with precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.
- Before holding the board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. It discharges static electricity from your body.
- Wear a wrist-grounding strap, available from most electronic component stores, when handling boards and components.

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MEMO

CHAPTER 1

INTRODUCTION



The **SBC81700** PICMG 1.0 full-size Single Board Computer supports VIA V4 C7/Eden processors, at differential host clock of 400 MHz. The board integrates chipsets VIA CN700 + VT8237R-Plus and ITE8888G that deliver low power consumption and cost effective and stable legacy bus interfaces, multiple I/O functions for interactive applications and various embedded computing solutions. There are two 240-pin DDR2 DIMM sockets for dual channel DDR2 400/533, maximum memory capacity up to 2GB. The board also features Ethernet 10/100Mb, Dual PCI LAN, two-channel PATA-133 support up to four devices, two serial ATA-150 ports and built-in six USB 2.0 high speed compliant that can achieve the best stability and reliability for industrial applications.

1.1 Specifications

- **CPU**
 - VIA V4 C7/Eden processors
- **System Chipset**
 - VIA CN700 + VT8237R-Plus
- **Front-Side Bus**
 - Differential Host Clock of 400 MHz
- **BIOS**
 - Phoenix-Award PnP Flash BIOS
- **System Memory**
 - Two 240-pin DDR2 DIMM sockets
 - Maximum up to 2GB DDR2 memory
- **L2 Cache**
 - Integrated in CPU
- **Onboard Multi-I/O**
 - Parallel Port -- 26-pin 2.54 pitch box-header with SPP/EPP/ECP supported
 - Serial Port
 - ◆ 10-pin 2.54 pitch box-header for RS-232
 - ◆ 10-pin 2.54 pitch box-header for RS-232/422/485 with jumper selectable, RS-485 with auto-flow control
 - Floppy controller -- 34-pin 2.54 pitch box-header to support two drives (1.44MB for each)
- **USB Interface**
 - Six USB ports compliant with USB Spec. Rev. 2.0
- **VGA Controller**
 - Chipset
 - ◆ Optimized Unified Memory Architecture (UMA)
 - ◆ Supports 16 / 32 / 64 MB Frame Buffers size
 - ◆ Graphics engine clocks up to 200 MHz decoupled

- from memory clock
- ◆ Internal AGP 8x performance
- ◆ Two 128-bit internal data paths between North Bridge and graphics core for frame buffer and texture/command access
- ◆ PCI v2.2 Host Bus compliant
- ◆ AGP v3.5 compliant
- Memory Size -- Supports 16 / 32 / 64 MB Frame Buffers size
- Resolution -- Supports CRT resolutions up to 1600 x 1200
- Analog Output Interface
 - ◆ CRT display interface with 24-bit true-color RAMDAC up to 300 MHz pixel rate with gamma correction capability
 - ◆ With 15-pin D-Sub connector on the rear I/O
- **Ethernet**
 - The LAN1/LAN2: dual Realtek RTL8100C 10/100 Base-T Fast Ethernet controller
 - Via PCI bus
 - Wake-on-LAN support
- **Serial ATA**
 - Built-in two SATA-150 ports
- **Hardware Monitoring**
 - Monitoring temperatures, voltages, and cooling fan status
- **Watchdog Timer**
 - Reset supported
 - 1~255 seconds; up to 255 levels
- **Dimensions:** 338 x 122 mm

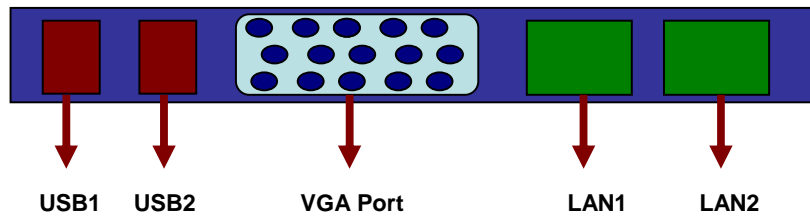


NOTE All specifications and images are subject to change without notice.

1.2 Utilities Supported

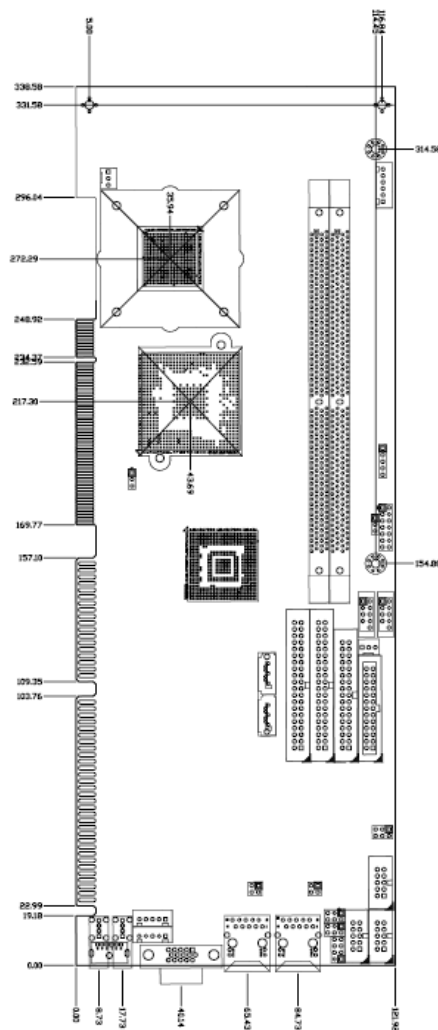
- Chipset Utility and Drivers
- VGA Drivers
- Ethernet Utility and Drivers

1.3 I/O Bracket

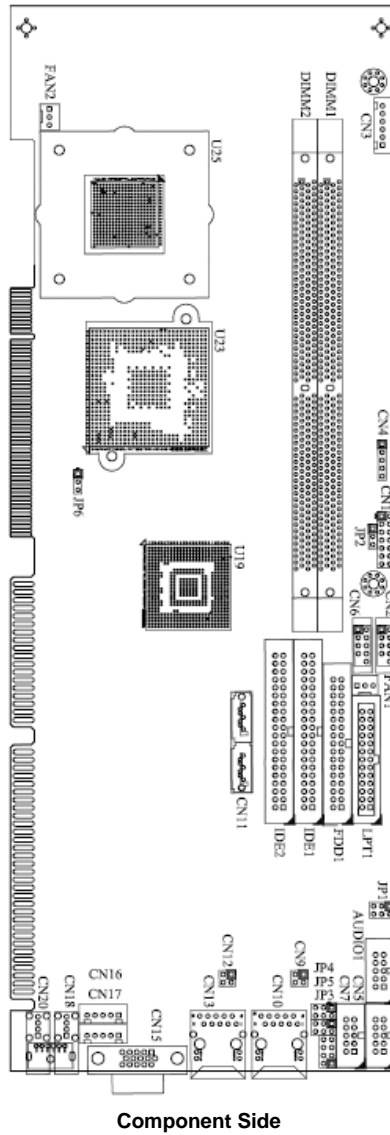


CHAPTER 2 JUMPERS AND CONNECTORS

2.1 Board Dimensions



2.2 Board Layouts



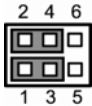
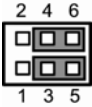
2.3 Jumper Settings

Proper jumper settings configure the **SBC81700** to meet your application purpose.

Jumper	Default Setting	Jumper Setting
JP1	Audio Line Out/Speaker Out: Line out (Optional)	Short 1-3, 2-4
JP2	Power Supply Selection: ATX power supply	Short 2-3
JP3	COM2 Mode Select: RS-232	Short 1-2
JP4	COM2 Mode Select: RS-232	Short 3-5, 4-6
JP5	COM2 Mode Select: RS-232	Short 3-5, 4-6
JP6	Clear CMOS Setting: Normal	Short 1-2



2.3.1 Audio Line-Out/Speaker Out Jumper (JP1)

This jumper makes the selection of Audio output.

Description	Function	Jumper Setting
Audio Output Selection	Line Out (Default)	
	Speak Out	

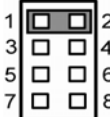
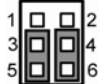

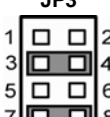
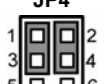
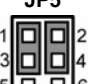
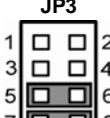
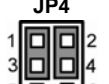
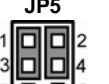
 **Note** This is an optional jumper, not mounted as a default design.

2.3.2 Power Supply Selection Jumper (JP2)

Description	Function	Jumper Setting
Power Supply Selection	ATX POWER (Default)	
	AT POWER	



2.3.3 COM2 Mode Select Jumpers (JP3, JP4, JP5)

These jumpers select the COM2 port's communication mode to operate RS-232 or RS-422/485.

Description	Function	Jumper Setting		
COM2 Mode Select	RS-232 (Default)	JP3 	JP4 	JP5 
	RS-422	JP3 	JP4 	JP5 
	RS-485	JP3 	JP4 	JP5 

2.3.4 CMOS Clear Jumper (JP6)

You may need to use this jumper is to clear the CMOS memory if incorrect BIOS settings.

Description	Function	Jumper Setting
CMOS Clear	Normal (Default)	
	Clear CMOS	

2.4 Connectors

Connectors connect the CPU card with other parts of the system. Loose or improper connection might cause problems. Make sure all connectors are properly and firmly connected.

Here is a summary table shows you all connectors on the board.

Connectors	Label
Audio Connector (optional)	AUDIO1
Flat Panel Bezel Connector	CN1
ACPI Connector	CN3
Com1 Connector	CN5
Com2 Connector	CN7
USB1/2 Connector	CN6
USB3/4 Connector	CN2
LAN External LED Connectors	CN9, CN12
LAN Connectors	CN10, CN13
SATA Connector	CN11
VGA Connector	CN15
Keyboard External Connector	CN16
Mouse External Connector	CN17
USB5/6 Connectors	CN20, CN18
FAN Power connectors	FAN1, FAN2
DDRII DIMMs	DIMM1, DIMM2
Floppy Connector	FDD1
IDE Connectors	IDE1, IDE2
LPT Port Connector	LPT1

2.4.1 Audio Connector (AUDIO1)

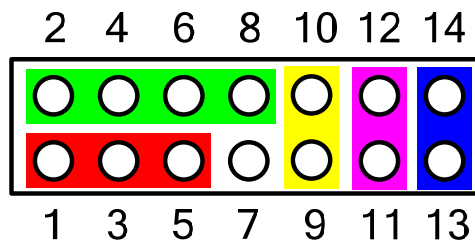
AUDIO1 is a 10-pin connector to support the audio interface.



Note It is optional function by request.

Pin	Signal	Pin	Signal	
1	MIC-IN	2	GND	2 4 6 8 10
3	Line In L	4	GND	□ □ □ □ □
5	Line In R	6	GND	■ □ □ □ □
7	Audio Out L	8	GND	1 3 5 7 9
9	Audio Out R	10	GND	

2.4.2 Front Panel Connector (CN1)



■ Power LED

Pins 1, 3, 5 connect the system power LED indicator to the system power switch on the case. Pin 1 is assigned to +, and pin 5 to -. The Power LED lights up when the system is powered ON.

■ External Speaker and Internal Buzzer Connector

This 4-pin connector (Pin 2, 4, 6, 8) can be connected to the case-mounted speaker unit or internal buzzer. While connecting the CPU card to an internal buzzer, please short pins 2-4; while connecting to an external speaker, you need to set pins 2-4 to Open and connect the speaker cable to pin 8 (+) and pin 2 (-).

■ ATX Power On/Off Button

This 2-pin connector (Pin 9, 10) connects the front panel's ATX power button to the CPU card, which allows users to control ATX

power supply to be power on/off.

■ System Reset Switch

This 2-pin connector (Pin 11, 12) can be connected to the case-mounted reset switch that reboots your computer, not turns OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.

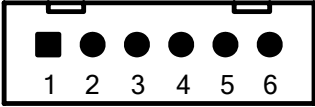
■ HDD Activity LED

This connection is linked to hard drive activity LED on the control panel. LED flashes when HDD is being accessed. The 2-pin connector (Pin 13, 14) connects the hard disk drive to the front panel HDD LED, Pin 13 assigned as -, and Pin 14 as +.

2.4.3 ACPI Connector (CN3)

Advanced Configuration and Power Interface (ACPI) defines a flexible and extensible interface that allows system designers to select appropriate cost/feature trade-offs for power management. The interface enables and supports reliable power management through improved hardware and operating system coordination. The specification enables new power management technology to evolve independently in operating systems and hardware while ensuring that they continue to work together.

CN3 is a 6-pin header connector that provides ACPI interface.

Pin	Signal	
1	EXTSMI	
2	GND	
3	POWER BUTTON	
4	GND	
5	SUSB	
6	+5VSB	


2.4.4 Serial Port Interface (CN5, CN7)

The serial interface for the board consists of COM1 port (**CN5**) and COM2 (**CN7**) to support RS-232/RS-422/RS-485.

CN5 & CN7:

The RS-232 pin assignment is listed on the following table.


Pin	Signal	Pin	Signal
1	Data Carrier Detect (DCD)	2	Data Set Ready (DSR)
3	Receive Data (RXD)	4	Request to Send (RTS)
5	Transmit Data (TXD)	6	Clear to Send (CTS)
7	Data Terminal Ready (DTR)	8	Ring Indicator (RI)
9	Ground (GND)	10	NC



CN7:

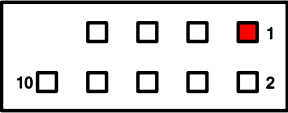
The RS-422/485 pin assignment is listed on the following table.

Pin #	Signal Name	
	RS-422	RS-485
1	TX-	DATA-
2	No connector	No connector
3	TX+	DATA+
4	No connector	No connector
5	RX+	No connector
6	No connector	No connector
7	RX-	No connector
8	No connector	No connector
9	GND	GND
10	No connector	No connector

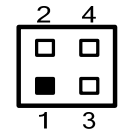


2.4.5 USB 1 ~4 Connectors (CN6, CN2)

These Universal Serial Bus (USB) connectors on this board are for installing versatile USB interface peripherals. These are 10-pin standard USB connectors.

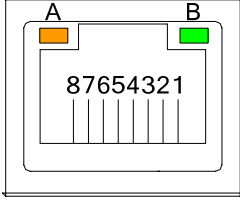
Pin	Signal	Pin	Signal	
1	+5V	2	+5V	
3	D0-	4	D1-	
5	D0+	6	D1+	
7	Ground (GND)	8	Ground (GND)	
9	NC	10	Ground (GND)	

2.4.6 LAN External LED Connectors (CN9, CN12)

Pin	Signal	Pin	Signal	
1	LAN_ACT-	2	+3.3VSB	
3	LAN_LINK-	4	LAN_LINK+	


2.4.7 Ethernet RJ-45 Connectors with LED (CN10, CN13)

The RJ-45 connector **CN10** and **CN13** are for Ethernet.

Pin	Signal	
1	Tx+ (Data transmission positive)	
2	Tx- (Data transmission negative)	
3	Rx+ (Data reception positive)	
4	RJ45 termination	
5	RJ45 termination	
6	Rx- (Data reception negative)	
7	RJ45 termination	
8	RJ45 termination	
A	Active LED	
B	100 LAN LED	

2.4.8 SATA Connector (CN11)

This SATA connector is for high-speed SATA interface ports and it can be connected to hard disk devices.

Pin	Signal	
1	GND	
2	SATA_TX+	
3	SATA_TX-	
4	GND	
5	RX-	
6	RX+	
7	GND	

2.4.9 VGA Connector (CN15)

The VGA connector **CN15** is a standard 15-pin connector commonly used for the CRT VGA display.

Pin	Signal	Pin	Signal	Pin	Signal
1	Red	2	Green	3	Blue
4	N.C	5	AGND	6	AGND
7	AGND	8	AGND	9	+5V
10	AGND	11	N.C	12	DDC DATA
13	Horizontal Sync	14	Vertical Sync	15	DDC CLK

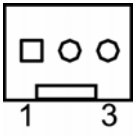
2.4.10 Keyboard & Mouse External Connectors (CN16, CN17)

The board provides the Keyboard and Mouse interface with two 5-pin connectors **CN16** and **CN17**.

Pin	Signal	
1	Clock	1 ■
2	Data	2 □
3	N.C	3 □
4	GND	4 □
5	Power	5 □

2.4.11 Fan Connectors (FAN1, FAN2)

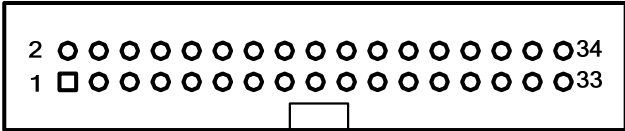
A CPU fan is always needed for cooling CPU heat. **FAN1** is a fan connector for the system, and **FAN2** for CPU.

Pin	Signal	
1	Ground	
2	+12V	
3	Sensor	

2.4.12 FDD Connector (FDD1)

The board provides a 34-pin header type connector, **FDD1**, supporting up to two floppy drives. The floppy drives may be any one of the following types: 5.25" 360KB/1.2MB and 3.5" 720KB/1.44MB/2.88MB.

Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	Reduce write current	3	GND
4	N/C	5	GND	6	N/C
7	GND	8	Index #	9	GND
10	Motor enable A #	11	GND	12	Drive select B #
13	GND	14	Drive select A #	15	GND
16	Motor enable B #	17	GND	18	Direction #
19	GND	20	STEP #	21	GND
22	Write data #	23	GND	24	Write gate #
25	GND	26	Track 0 #	27	GND
28	Write protect #	29	GND	30	Read data #
31	GND	32	Side 1 select #	33	GND
34	Disk change #				



2.4.13 IDE Connectors (IDE1, IDE2)

Pin	Signal	Pin	Signal	Pin	Signal
1	Reset #	2	GND	3	Data 7
4	Data 8	5	Data 6	6	Data 9
7	Data 5	8	Data 10	9	Data 4
10	Data 11	11	Data 3	12	Data 12
13	Data 2	14	Data 13	15	Data 1
16	Data 14	17	Data 0	18	Data 15
19	GND	20	N.C	21	N.C
22	GND	23	IOW #	24	GND
25	IOR #	26	GND	27	IOCHRDY
28	N.C	29	N.C	30	GND-Default
31	Interrupt	32	N.C	33	SA1
34	N.C	35	SA0	36	SA2
37	HDC CS0 #	38	HDC CSI #	39	HDD Active #
40	GND				

2.4.14 Parallel Port (LPT1)

There is a multi-mode parallel port **LPT1** that supports the following modes:

1. **Standard mode:**
IBM PC/XT, PC/AT and PS/2™ compatible with bi-directional parallel port
2. **Enhanced mode:**
Enhance parallel port (EPP) compatible with EPP 1.7 and EPP 1.9 (IEEE 1284 compliant)
3. **High speed mode:**
Microsoft and Hewlett Packard extended capabilities port (ECP)
IEEE 1284 compliant

Pin	Signal	Pin	Signal
1	Strobe#	2	Auto Form Feed#
3	Data 0	4	Error#
5	Data 1	6	Initialize#
7	Data 2	8	Printer Select In#
9	Data 3	10	GND
11	Data 4	12	GND
13	Data 5	14	GND
15	Data 6	16	GND
17	Data 7	18	GND
19	Acknowledge#	20	GND
21	Busy	22	GND
23	Paper Empty#	24	GND
25	Printer Select	26	NC

CHAPTER 3

HARDWARE DESCRIPTION

3.1 Microprocessors

The **SBC81700 Series** supports VIA V4 C7/Eden processors, which make your system operated under Windows[®] XP and Linux environments. The system performance depends on the microprocessor. Make sure your installed microprocessor with all correct settings that prevent the CPU from damages.

3.2 BIOS

The **SBC81700 Series** uses Phoenix-Award Plug and Play BIOS with a single 4Mbit Flash.

3.3 System Memory

The **SBC81700 Series** industrial CPU card supports two 240-pin DDR2 DIMM sockets for a maximum memory of 2GB DDR2 SDRAMs. The memory module can come in sizes of 64 MB, 128 MB, 256 MB, 512 MB, 1 GB and 2 GB.

3.4 I/O Port Address Map

The VIA V4 C7/Eden CPUs can communicate via I/O ports. There are total 1KB port addresses available for assignment to other devices via I/O expansion cards.

Address	Devices
000-01F	DMA controller #1
020-03F	Interrupt controller #1
040-05F	Timer
060-06F	Keyboard controller
070-07F	Real time clock, NMI
080-09F	DMA page register
0A0-0BF	Interrupt controller #2
0C0-0DF	DMA controller #2
0F0	Clear math coprocessor busy signal
0F1	Reset math coprocessor
0F8-0FF	Math processor
1F0-1F8	Fixed disk controller
250-25F	HR I/O
300-31F	Prototype card
380-38F	SDLC #2
3A0-3AF	SDLC #1
3B0-3BF	MDA video card (including LPT1)
3C0-3CF	EGA card
3D0-3DF	CGA card
3F8-3FF	Serial port #1 (COM1)
3E8-3EF	Serial port #3 (COM3)
2F8-2FF	Serial port #2 (COM2)
2E8-2EF	Serial port #4 (COM4)
3F0-3FF	Super I/O

CHAPTER 4

PHOENIX-AWARD BIOS UTILITY

The Phoenix-Award BIOS provides users with a built-in Setup program to modify basic system configuration. All configured parameters are stored in a battery-backed-up RAM (CMOS RAM) to save the Setup information whenever the power is turned off.

4.1 Entering Setup

There are two ways to enter the Setup program. You may either turn ON the computer and press immediately, or press the and/or <Ctrl>, <Alt>, and <Esc> keys simultaneously when the following message appears at the bottom of the screen during POST (Power on Self Test).

TO ENTER SETUP PRESS DEL KEY

If the message disappears before you respond and you still want to enter Setup, please restart the system to try it again. Turning the system power OFF and ON, pressing the "RESET" button on the system case or simultaneously pressing <Ctrl>, <Alt>, and keys can restart the system. If you do not press keys at the right time and the system doesn't boot, an error message will pop out to prompt you the following information:

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR TO ENTER SETUP

4.2 Control Keys

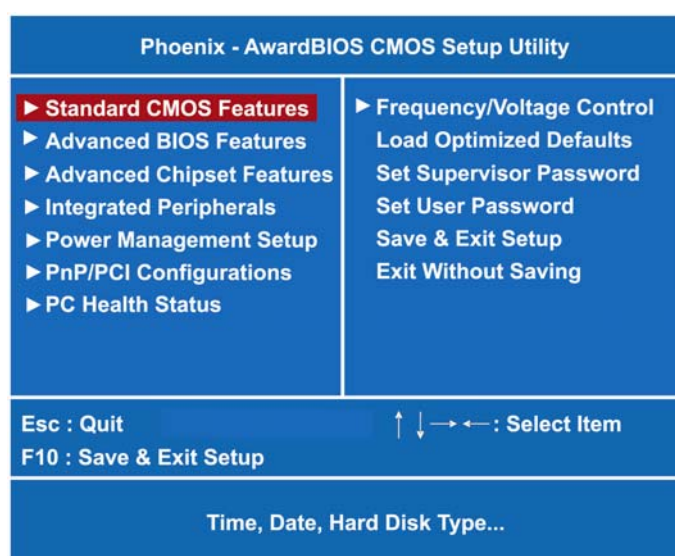
Up arrow	Move cursor to the previous item
Down arrow	Move cursor to the next item
Left arrow	Move cursor to the item on the left hand
Right arrow	Move to the item in the right hand
Esc key	Main Menu -- Quit and delete changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
PgUp/“+” key	Increase the numeric value or make changes
PgDn/“-” key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
(Shift) F2 key	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F3 key	Reserved
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the Setup default, only for Option Page Setup Menu
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

4.3 Getting Help

- **Main Menu**
The online description of the highlighted setup function is displayed at the bottom of the screen.
- **Status Page Setup Menu/Option Page Setup Menu**
Press <F1> to pop out a small Help window that provides the description of using appropriate keys and possible selections for highlighted items. Press <F1> or <Esc> to exit the Help Window.

4.4 The Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu appears on the screen. In the Main Menu, there are several Setup functions and a couple of Exit options for your selection. Use arrow keys to select the Setup Page you intend to configure then press <Enter> to accept or enter its sub-menu.



NOTE *If your computer can not boot after making and saving system changes with Setup, the Award BIOS will reset your system to the CMOS default settings via its built-in override feature.*

It is strongly recommended that you should avoid changing the chipset's defaults. Both Award and your system manufacturer have carefully set up these defaults that provide the best performance and reliability.

4.5 Standard CMOS Setup Menu

The Standard CMOS Setup Menu displays basic information about your system. Use arrow keys to highlight each item, and use <PgUp> or <PgDn> key to select the value you want in each item.

Phoenix - AwardBIOS CMOS Setup Utility Standard CMOS Features		
Date (mm:dd:yy)	THU, Aug 21 2008	Item Help Menu Level ► Change the day, month, year and century.
Time (hh:mm:ss)	10 : 50 : 55	
► IDE Channel 0 Master	[None]	
► IDE Channel 0 Slave	[None]	
► IDE Channel 1 Master	[None]	
► IDE Channel 1 Slave	[None]	
► IDE Channel 2 Master	[None]	
► IDE Channel 3 Master	[None]	
Drive A	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	64512K	
Total Memory	65536K	
↑ ↓ → ← : Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults		

- Date**

The date format is <day>, <date> <month> <year>. Press <F3> to show the calendar.

day	It is determined by the BIOS and read only, from Sunday to Saturday.
date	It can be keyed with the numerical/ function key, from 1 to 31.
month	It is from January to December.
year	It shows the current year of BIOS.

- Time**

This item shows current time of your system with the format <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

- **IDE Primary Master/Primary Slave**

The categories identify the types of one channel that have been installed in the computer. There are 45 predefined types and 2 users definable types are for Enhanced IDE BIOS. Type 1 to Type 45 is predefined. Type User is user-definable.

Press <PgUp>/<+> or <PgDn>/<-> to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information within this category. If your hard disk drive type does not match or is not listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, select "Type 1".

If the controller of HDD interface is SCSI, select "None".

If the controller of HDD interface is CD-ROM, select "None".

CYLS.	number of cylinders	LANDZONE	landing zone
HEADS	number of heads	SECTORS	number of sectors
PRECOMP	write precom	MODE	HDD access mode

If there is no hard disk drive installed, select NONE and press <Enter>.

- **Dive A type**

The item identifies the types of floppy disk installed in the computer.

None	No floppy drive installed
360K, 3.5 in	3.5 inch PC-type standard drive; 360Kb Mini ITXcity
1.2M, 3.5 in	3.5 inch AT-type high-density drive; 1.2MB Mini ITXcity
720K, 3.5 in	3.5 inch double-sided drive; 720Kb Mini ITXcity
1.44M, 3.5 in	3.5 inch double-sided drive; 1.44MB Mini ITXcity
2.88M, 3.5 in	3.5 inch double-sided drive; 2.88MB Mini ITXcity

- **Video**

Select the display adapter type for your system.

- **Halt On**

This field determines whether the system will halt if an error is detected during power up.

No errors	The system boot will halt on any error detected. (default)
All errors	Whenever the BIOS detect a non-fatal error, the system will stop and you will be prompted.
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

Press <Esc> to return to the Main Menu page.

4.6 Advanced BIOS Features

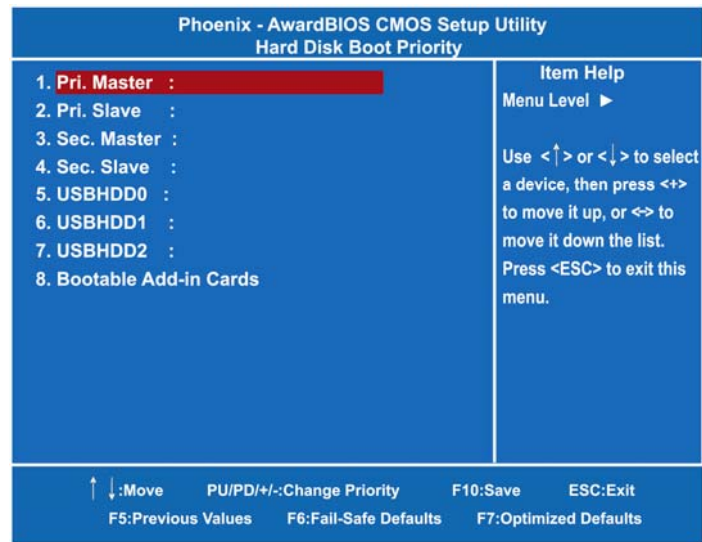
This section allows you to configure and improve your system, to set up some system features according to your preference.

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced BIOS Features		
▶ Hard Disk Boot Priority	[Press Enter]	Item Help
▶ Virus Warning	[Disabled]	Menu Level ▶
CPU Internal Cache	[Enabled]	
CPU L2 Cache ECC Checking	[Enabled]	
Quick Power On Shelf Test	[Enabled]	
First Boot Device	[Hard Disk]	Select Hard Disk Boot
Second Boot Device	[CDROM]	Device Priority
Third Boot Device	[LS120]	
Boot Other Device	[Enabled]	
Onboard Lan Boot ROM	[Disabled]	
Boot Up Floppy Seek	[Disabled]	
Boot Up NumLock Status	[On]	
Typematic Rate Setting	[Disabled]	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	[Setup]	
MPS Version Control For OS	[1.4]	
OS Select For DRAM > 64MB	[Non-OS2]	
Video BIOS Shadow	[Enabled]	
Small Logo <EPA> Show	[Disabled]	

↑ ↓ → ← : Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
 F5: Previous Values F7: Optimized Defaults

- **Hard Disk Boot Priority**

Scroll to this item and press <Enter> to view the sub menu to decide the disk boot priority.



Press <Esc> to return to the Advanced BIOS Features page.

- **Virus Warning**

This option flashes on the screen. During and after the system boot up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system with the following message. You can run an anti-virus program to locate the problem. The default setting is "Disabled".

! WARNING !

Disk boot sector is to be modified

Type "Y" to accept write or "N" to abort write

Award Software, Inc.

Enabled	Activates automatically when the system boots up causing a warning message to appear when there is an attempt to access the boot sector or hard disk partition table.
----------------	---

Disabled	No warning message will appear when attempts to access the boot sector or hard disk partition table are made.
-----------------	---



NOTE This function is only available with DOS and other operating systems that do not trap INT13.

- **CPU Internal Cache**

This option speeds up memory access. However, it depends on the CPU/chipset design. The default setting is “*Enabled*”. The “CPU Internal Cache” item won’t appear on the menu, when CPU doesn’t have a built-in internal cache.

Enabled	Enable cache
Disabled	Disable cache

- **CPU L2 Cache ECC Checking**

When enabled, this allows ECC checking of the CPU’s L2 cache. By default, this field is “*Enabled*”.

- **Quick Power On Self Test**

This option speeds up Power on Self Test (POST) after you turn on the system power. If set as Enabled, BIOS will shorten or skip some check items during POST. The default setting is “*Enabled*”.

Enabled	Enable Quick POST
Disabled	Normal POST

- **First/Second/Third Boot Device**

These items allow the selection of the 1st, 2nd, and 3rd devices that the system will search for during its boot-up sequence. The wide range of selection includes Floppy, LS120, ZIP100, HDD0~3, SCSI, and CDROM.

- **Boot Other Device**

This item allows the user to enable/disable the boot device not listed on the First/Second/Third boot devices option above. The default setting is “*Enabled*”.

- **Onboard Lan Boot ROM**

This item allows you to decide to boot from whether LAN1 or LAN2. The options available are "LAN1", "LAN2", and "Disabled".

- **Boot Up Floppy Seek**

During POST, BIOS will determine the floppy disk drive type, 40 or 80 tracks. 360Kb type is 40 tracks while 720Kb, 1.2MB and 1.44MB are all 80 tracks. The default value is "Enabled".

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drives type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. There will be no warning message displayed if the drive installed is 360K.

- **Boot Up NumLock Status**

Selects power on state for NumLock. The default value is "On".

- **Typematic Rate Setting**

This determines the typematic rate of the keyboard. The default value is "Disabled".

Enabled	Enable typematic rate and typematic delay programming
Disabled	Disable typematic rate and typematic delay programming. The system BIOS will use default value of these 2 items and the default is controlled by keyboard.

- **Typematic Rate (Chars/Sec)**

This option refers to the number of characters the keyboard can type per second. The default value is "6".

6	6 characters per second
8	8 characters per second
10	10 characters per second
12	12 characters per second
15	15 characters per second
20	20 characters per second
24	24 characters per second
30	30 characters per second

- **Typematic Delay (Msec)**

This option sets the display time interval from the first to the second character when holding a key. The default value is "250".

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

- **Security Option**

This item allows you to limit access to the system and Setup, or just to Setup. The default value is "Setup".

System	The system will not boot and access to Setup will be denied if the incorrect password is entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.



NOTE To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything, just press <Enter> and it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

- **MPS Version Control For OS**

This item specifies the version of the Multiprocessor Specification (MPS). Version 1.4 has extended configuration tables to improve support for multiple PCI bus configurations and provide future expandability.

- **Video BIOS Shadow**

Enable this parameter to turn on BIOS ROM shadowing for the block of memory normally used for standard VGA video ROM code.

- **Small Logo (EPA) Show**

If enabled, the EPA logo will appear during system booting up; if disabled, the EPA logo will not appear.

Press <Esc> to return to the Main Menu page.

4.7 Advanced Chipset Features

Since the features in this section are related to the chipset on the CPU board and are completely optimized, you are not recommended to change the default settings in this setup table unless you are well oriented with the chipset features.

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced Chipset Features		
▶ DRAM Clock/Drive Control	[Press Enter]	Item Help
▶ AGP & P2P Bridge Control	[Press Enter]	Menu Level ▶
▶ CPU & PCI Bus Control	[Press Enter]	
System BIOS Cacheable	[Disaabled]	
Video RAM Cacheable	[Disabled]	
Init Display First	[PCI Slot]	
↑ ↓ → ← :Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help		
F5:Previous Values F7:Optimized Defaults		

- **DRAM Clock/Drive Control**

Scroll to this item and press <Enter> to view the sub menu DRAM Clock/Drive Control.

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
DRAM Clock/Drive Control		Menu Level ►
Current FSB Frequency		
Current DRAM Frequency		
DRAM Clock	[By SPD]	
DRAM Timing	[Auto By SPD]	
X SDRAM CAS Latency	DDR/DDR2.5/ 4	
X Bank Interleave	Disabled	
X Precharge to Active <Trp>	4T	
X Active to Precharge <Tras>	07T	
X Active to CMD <Trcd>	4T	
X REF to ACT/REF <Trfc>	21T	
X ACT <0> to ACT <1><TRRD>	3T	
Read to Precharge <Trtp>	[2T]	
Write to Read CMD <Twtr>	[1T/2T]	
Write Recovery Time <Twr>	[4T]	
DRAM Command Rate	[2T Command]	
RDSAIT mode	[Auto]	
X RDSAIT selection	03	
↑ ↓ → ← : Move Enter: Select +/-PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults		

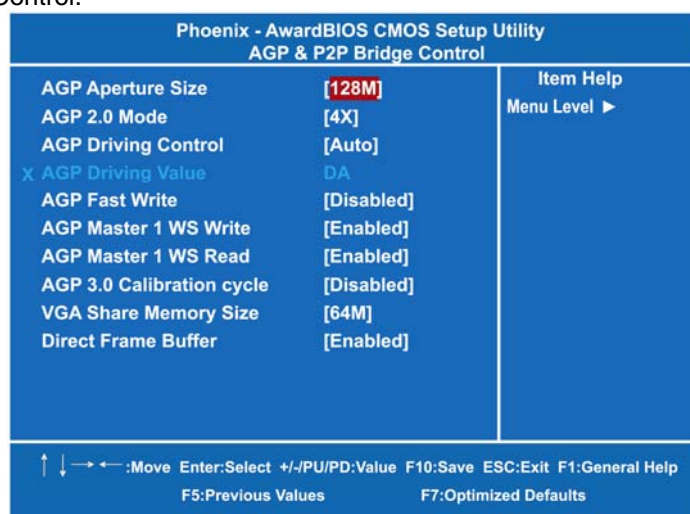
- **Current FSB/DRAM Frequency**
Those two items are read-only to show the current FSB and DRAM.
- **DRAM Clock**
Use this item to adjust memory speed. Option By SPD (Serial Detect Presence) makes it possible to do an automatic selection.
- **DRAM Timing**
Use this item to increase the timing of the memory. This is related to the cooling of memory.
- **SDRAM CAS Latency**
When synchronous DRAM is installed, the DRAM timing determines the CAS latency's clock cycles. It is strongly recommended to keep this item at default value specified by the system designer.
- **Bank Interleave**
Select 2-Bank or 4-Bank interleave for 64-Mb SDRAM.

- **Read to Precharge (Trtp)**
Use this item to adjust time interval between a read and a precharge command.
- **Write to CMD (Twtr)**
The default time setting is 1T/2T.
- **Write Recovery Time (Twr)**
Use this item to specify the time (in cycles of clock) necessarily inserted between the operation of valid writing memory and a cooling report.
- **DRAM Command Rate**
Use this item to manually define the chipset-to-memory latency values.
- **RDSAIT Mode**
This item is to select the RDSAIT mode auto or manual.

Press <Esc> to return to the Advanced Chipset Features page.

- **AGP & P2P Bridge Control**

Use this item to set AGP and P2P Bridge controls for allocating system RAM amount to AGP for video purposes. Scroll to this item and press <Enter> to view the sub menu AGP & P2P Bridge Control.



- **AGP Aperture Size**

This item controls the memory space allocation to AGP for display. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space.

- **AGP 2.0 Mode**

This item decides the AGP Mode of the integrated graphics.

- **AGP Master 1 WS Write**

When this item is enabled, the write to the AGP (Accelerated Graphics Port) will be executed with one wait state.

- **AGP Master 1 WS Read**

When this item is enabled, the read to the AGP (Accelerated Graphics Port) will be executed with one wait state.

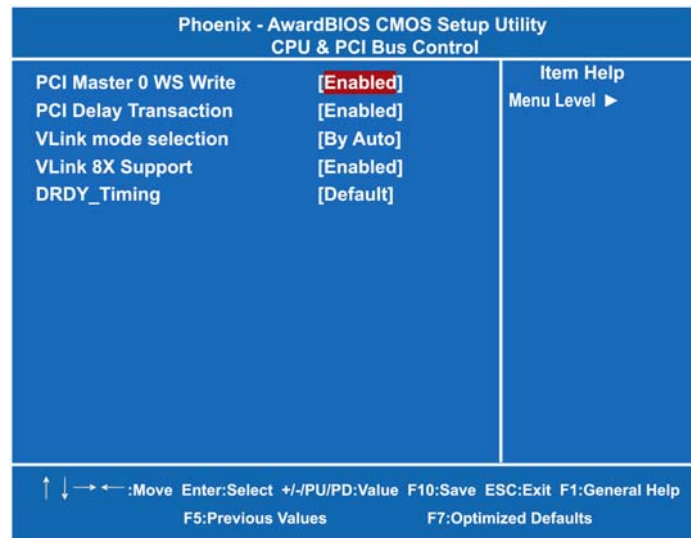
- **VGA Share Memory Size**

This item controls the amount of the system memory allocated to the integrated graphics processor when the system boots up.

Press <Esc> to return to the Advanced Chipset Features page.

- **CPU & PCI Bus Control**

Use this item to enable the immediate Write to PCI Bus, or disable it for a later execution. Scroll to this item and press <Enter> to view the sub menu CPU & PCI Bus Control.



- **PCI Master 0 WS Write**

When this item is enabled, the writes to the PCI bus will be executed with zero wait state.

- **PCI Delay Transaction**

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select "Enabled" to support compliance with PCI specification version 2.1.

Press <Esc> to return to the Advanced Chipset Features page.

- **System BIOS Cacheable**

Use this item to enable or disable the system BIOS cache.

- **Video RAM Cacheable**

Use this item to enable or disable the video RAM cache.

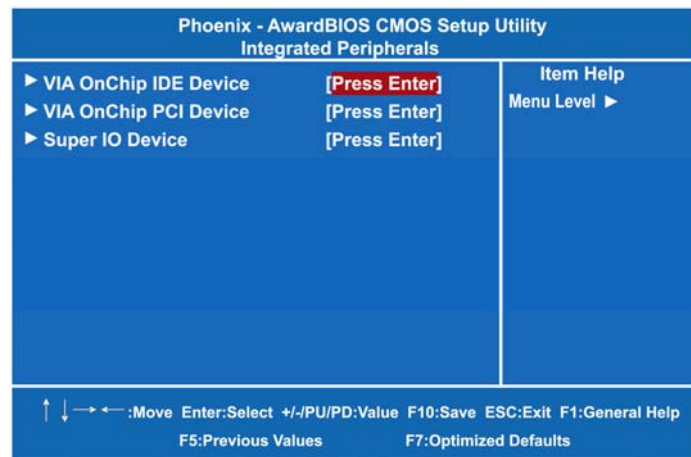
- **Init Display First**

This item allows you to decide whether PCI Slot or AGP to be the first primary display card.

Press <Esc> to return to the Main Menu page.

4.8 Integrated Peripherals

This section allows you to configure your SuperIO Device, IDE Function and Onboard Device.



- **VIA OnChip IDE Device**

Scroll to this item and press <Enter> to view the sub menu VIA OnChip IDE Device.

Phoenix - AwardBIOS CMOS Setup Utility		
VIA OnChip IDE Device		
OnChip SATA	[Enabled]	Item Help Menu Level ►
IDE DMA transfer access	[Enabled]	
OnChip IDE Channel0	[Enabled]	
OnChip IDE Channel1	[Enabled]	
IDE Prefetch Mode	[Enabled]	
Primary Master PIO	[Auto]	
Primary Slave PIO	[Auto]	
Secondary Master PIO	[Auto]	
Secondary Slave PIO	[Auto]	
Primary Master UDMA	[Auto]	
Primary Slave UDMA	[Auto]	
Secondary Master UMDA	[Auto]	
Secondary Salve UMDA	[Auto]	
IDE HDD Block Mode	[Enabled]	
↑ ↓ → ← : Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults		

- **OnChip SATA**

Enable this item to set the SATA channel to IDE Mode.

- **IDE DMA transfer access**

Automatic data transfer between system memory and IDE device with minimum CPU intervention. This improves data throughput and frees CPU to perform other tasks.

- **OnChip IDE Channel 0/1**

The board supports two channel of ordinary IDE interface. Select "Enabled" to activate each channel separately.

- **IDE Prefetch Mode**

Selecting "Enabled" reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above, is Disabled.

- **IDE Master/Slave PIO**

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that

the onboard IDE interface supports. Modes 0 to 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

➤ **IDE Master/Slave UDMA**

Select the mode of operation for the IDE drive. Ultra DMA-33/66/100/133 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver. If your hard drive and your system software both support Ultra DMA-33/66/100/133, select Auto to enable UDMA mode by BIOS.

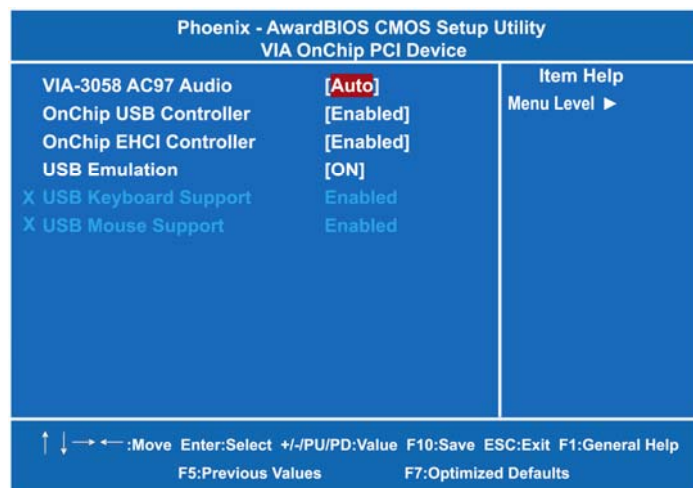
➤ **IDE HDD Block Mode**

Block mode is also called block transfer, multiple commands, or multiple sectors read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

Press <Esc> to return to the Integrated Peripherals page.

- **VIA OnChip PCI Device**

Scroll to this item and press <Enter> to view the sub menu VIA OnChip PCI Device.

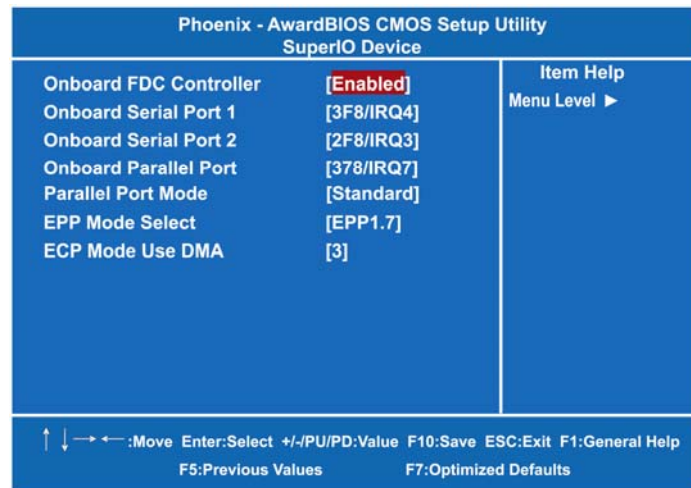


- **VIA-3058 AC97 Audio**
Set this item Auto to enable VIA-3058 AC97 Audio chipset.
- **OnChip USB Controller**
Enable this item if you are using the USB in the system. You should disable this item if a higher-level controller is added.
- **OnChip EHCI Controller**
Enable this item if you are using the EHCI (USB2.0) controller in the system.
- **USB Emulation**
Enable this item to boot the hard drive by a USB device.
- **USB Keyboard Support**
Enable this item if the system has a Universal Serial Bus (USB) controller, and you have a USB keyboard.
- **USB Mouse Support**
Enable this item to boot the hard drive by a USB mouse.

Press <Esc> to return to the Integrated Peripherals page.

- **Super IO Device**

Scroll to this item and press <Enter> to view the sub menu Super IO Device.



- **Onboard FDC Controller**

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled in this field. The options available are Enabled, Disabled.

- **Onboard Serial Port 1 / 2**

Select an address and corresponding interrupt for the serial port. Options: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

- **Onboard Parallel Port**

This item allows you to determine access onboard parallel port controller with which I/O address. The options available are 378H/IRQ7, 278H/IRQ5, 3BC/IRQ7, Disabled.

- **Parallel Port Mode**

Select an operating mode for the onboard parallel (printer) port. Select Normal unless your hardware and software require one of the other modes offered in this field. The options available are EPP1.9, ECP, SPP, ECPEPP1.7, and EPP1.7.

- **EPP Mode Select**
Select EPP port type 1.7 or 1.9.
- **ECP Mode Use DMA**
Select a DMA channel for the parallel port for use during ECP mode.

Press <Esc> twice to return to the Main Menu.

4.9 Power Management Setup

The Power Management Setup allows you to save energy of your system effectively. It will shut down the hard disk and turn OFF video display after a period of inactivity.

Phoenix - AwardBIOS CMOS Setup Utility		
Power Management Setup		
ACPI Function	[Enabled]	Item Help Menu Level ►
ACPI Suspend Type	[S1(POS)]	
Power Management	[User Define]	
HDD Power Down	[Disabled]	
Suspend Mode	[Diabled]	
Video Off Option	[Suspend -> Off]	
Video Off Method	[V/H SYNC+Blank]	
Soft-Off by PWR-BTTN	[Instant-Off]	
Run VGABIOS if S3 Resume	[Auto]	
Ac Loss Auto Restart	[Off]	
► IRQ/Event Activity Detect	[Press Enter]	
↑ ↓ → ← :Move Enter:Select +/-PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F7:Optimized Defaults		

- **ACPI Function**
This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI). The function is always Enabled.

- **ACPI Suspend Type**

This item specifies the power saving modes for ACPI function. If your operating system supports ACPI, such as Windows 98SE, Windows ME and Windows 2000, you can choose to enter the Standby mode in S1 (POS) or S3 (STR) fashion through the setting of this field. Options are:

[S1(POS)] The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system contexts.

[S3(STR)] The S3 sleep mode is a lower power state where the information of system configuration and open applications/files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information stored in memory will be used to restore the system when a "wake up" event occurs.

- **Power Management**

This option allows you to select the type of power Management. The options available are APM, ACPI.

- **HDD Power Down**

If HDD activity is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active.

- **Suspend Mode**

After the selected period of system inactivity (1 minute to 1 hour), all devices except the CPU shut off. The default value is "Disabled".

Disabled	System will never enter SUSPEND mode
1/2/4/6/8/10/20/30/40 Min/1 Hr	Defines the continuous idle time before the system entering SUSPEND mode. If any item defined in (J) is enabled & active, SUSPEND timer will be reloaded

- **Video Off Option**

This setting is used to control the mode in which the monitor will shut down. Setting options are:

Always On	Monitor remains on during power-saving modes.
Suspend → Off	Monitor blanked when system enters Suspend mode.
Susp, Stby → Off	Monitor blanked when system enters either Suspend or Standby mode.

All Modes → Off	Monitor blanked when system enters any power saving.
----------------------------	--

- **Video Off Method**

This setting determines the manner in which the monitor is blanked.

- **Soft-Off by PWRBTN**

This option only works with systems using an ATX power supply. It also allows the user to define which type of soft power OFF sequence the system will follow. The default value is *"Instant-Off"*.

Instant-Off	This option follows the conventional manner systems perform when power is turned OFF. Instant-Off is a soft power OFF sequence requiring only the switching of the power supply button to OFF
Delay 4 Sec.	Upon turning OFF system from the power switch, this option will delay the complete system power OFF sequence by approximately 4 seconds. Within this delay period, system will temporarily enter into Suspend Mode enabling you to restart the system at once.

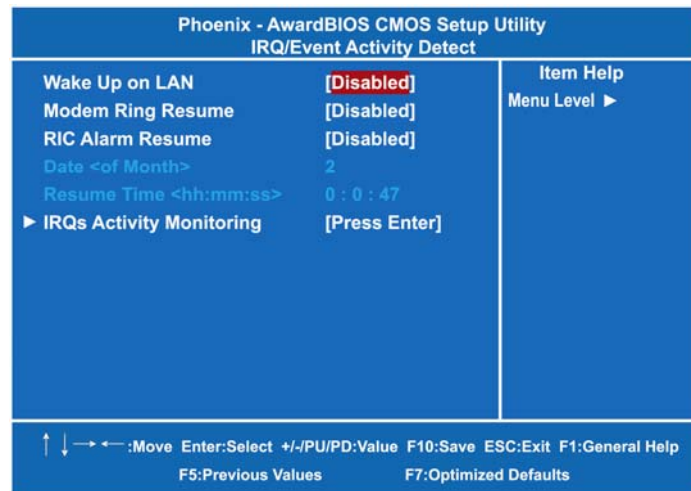
- **Ac Loss Auto Restart**

This setting specifies whether your system will reboot after a power failure or interrupt occurs. Available settings are:

Off	Leaves the computer in the power off state.
On	Leaves the computer in the power on state.
Former-sts	Restores the system to the status before power failure or interrupt occurred.

- **IRQ/Event Activity Detect**

Scroll to this item and press <Enter> to view the sub menu IRQ/Event Activity Detect.



Press <Esc> twice to return to the Main Menu page.

4.10 PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

Phoenix - AwardBIOS CMOS Setup Utility PnP/PCI Configurations		
PNP OS Installed	[No]	Item Help Menu Level ► Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto(ESCD)]	
X IRQ Resources	Press Enter	
X DMA Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ For VGA	[Enabled]	
Assign IRQ For USB	[Enabled]	
↑ ↓ → ← : Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F7: Optimized Defaults		

- PNP OS Installed**
 Select Yes if the system operating environment is Plug-and-Play aware (e.g., Windows 95). The default value is "No".
- Reset Configuration Data**
 Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup or if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The options available are Enabled and Disabled.
- Resources Controlled By**
 The Award Plug and Play BIOS can automatically configure all the

boot and Plug and Play-compatible devices. If you select Auto, all the interrupt request (IRQ), DMA assignment, and Used DMA fields disappear, as the BIOS automatically assigns them. The default value is *"Manual"*.

- **IRQ Resources**

When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt:

1. Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1).
 2. PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.
- The default value is *"PCI/ISA PnP"*.

- **DMA Resources**

When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt:

1. Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific DMA channel.
2. PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

The default value is *"PCI/ISA PnP"*.

- **PCI/VGA Palette Snoop**

Some non-standard VGA display cards may not show colors properly. This field allows you to set whether MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. When enabled, a PCI/VGA can work with a MPEG ISA/VESA VGA card. When disabled, a PCI/VGA cannot work with a MPEG ISA/VESA Card.

- **Assign IRQ For VGA**

The Enabled item allows the BIOS to auto-route an IRQ for use by a VGA card.

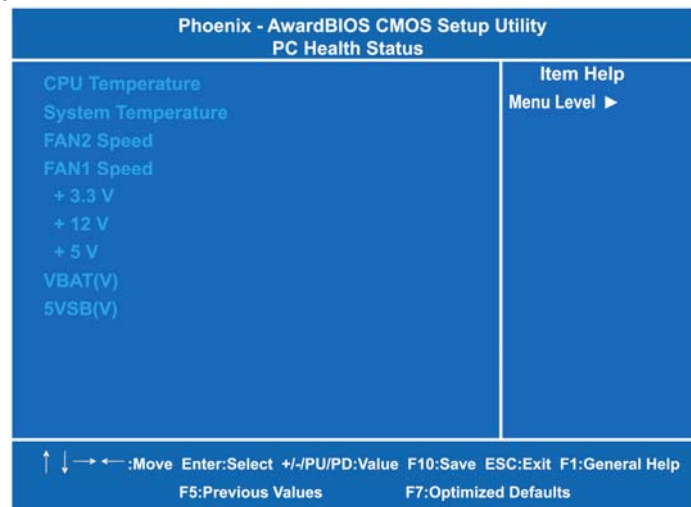
- **Assign IRQ For USB**

It enables or disables IRQ allocation for the USB (Universal Serial Bus). Enable this if you are using a USB device.

Press <ESC> to return to the Main Menu page.

4.11 PC Health Status

This section supports hardware monitoring that lets you monitor those parameters for critical voltages, temperatures and fan speed of the board.

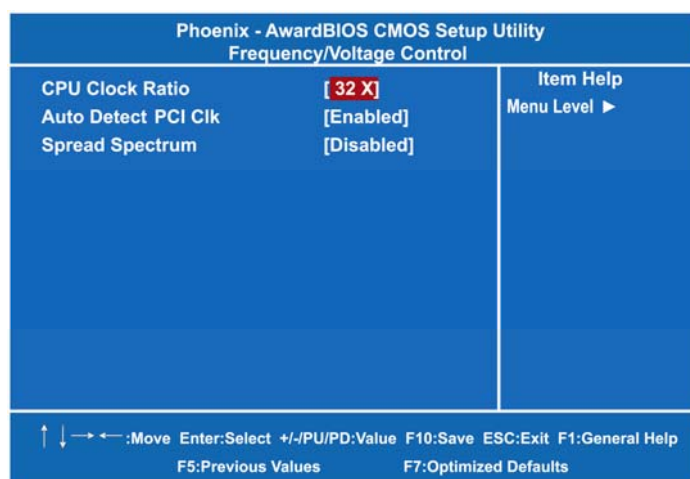


- **Current CPU Temperature**
These read-only fields reflect the functions of the hardware thermal sensor that monitors the chip blocks and system temperatures to ensure the system is stable.
- **Current SYSTEM Temperature**
Show you the current system1 temperature.
- **Current CPU FAN Speed**
These optional and read-only items show current speeds in RPM (Revolution Per Minute) for the CPU fan and chassis fan as monitored by the hardware monitoring IC.

Press <ESC> to return to the Main Menu page.

4.12 Frequency/Voltage Control

This section is to control the CPU frequency and Supply Voltage, DIMM OverVoltage and AGP voltage.

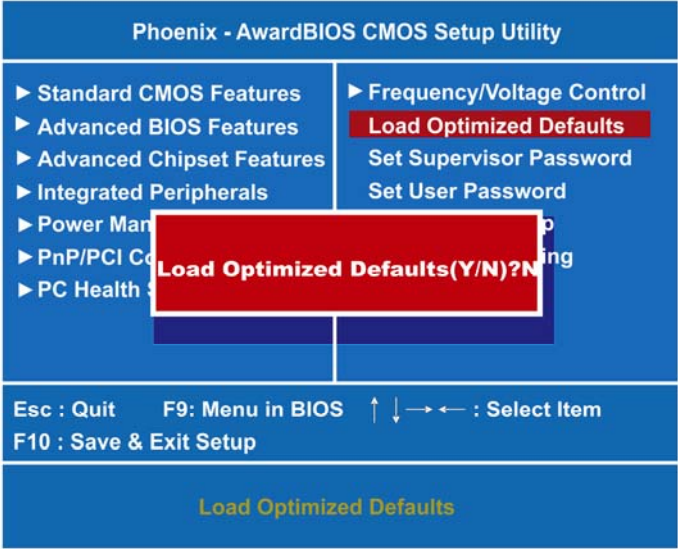


- **CPU Clock Ratio**
Use this item to select a multiplier to set the CPU frequency.
- **Auto Detect PCI Clk**
The enabled item can automatically disable the clock source for a PCI slot which does not have a module in it, reducing EMI (ElectroMagnetic Interference).
- **Spread Spectrum**
If spread spectrum is enabled, EMI (ElectroMagnetic Interference) generated by the system can be significantly reduced.

Press <ESC> to return to the Main Menu page.

4.13 Load Optimized Defaults

This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features.



To load SETUP defaults value to CMOS SRAM, enter "Y". If not, enter "N".

4.14 Set Supervisor/User Password

You can set a supervisor or user password, or both of them. The differences between them are:

1. **Supervisor password:** You can enter and change the options on the setup menu.
2. **User password:** You can just enter, but have no right to change the options on the setup menu.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type a maximum eight-character password, and press <Enter>. This typed password will clear previously entered password from the CMOS memory. You will be asked to confirm this password. Type this password again and press <Enter>. You may also press <Esc> to abort this selection and not enter a password.

To disable the password, just press <Enter> when you are prompted to enter a password. A message will confirm the password is getting disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED

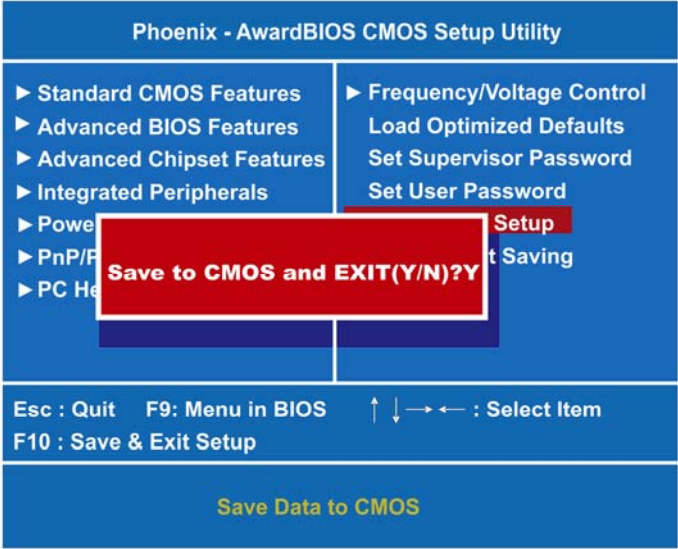
When a password is enabled, you have to type it every time you enter the Setup. It prevents any unauthorized persons from changing your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time the system reboots. This would prevent unauthorized use of your computer.

You decide when the password is required for the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password is required during booting up and entry into the Setup; if it is set as "Setup", a prompt will only appear before entering the Setup.

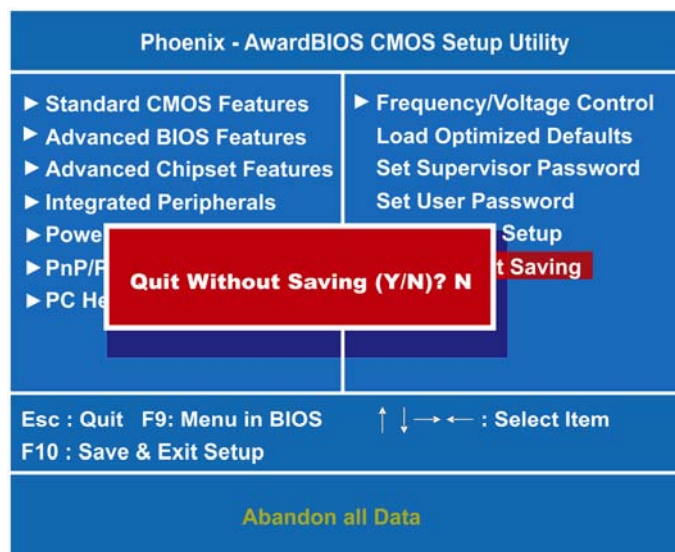
4.15 Save & Exit Setup

This allows you to determine whether or not to accept the modifications. Typing “Y” quits the setup utility and saves all changes into the CMOS memory. Typing “N” brings you back to Setup utility.



4.16 Exit Without Saving

Select this option to exit the Setup utility without saving the changes you have made in this session. Typing “Y” will quit the Setup utility without saving the modifications. Typing “N” will return you to Setup utility.



MEMO

APPENDIX A

WATCHDOG TIMER

Watchdog Timer Setting

After the system stops working for a while, it can be auto-reset by the Watchdog Timer. The integrated Watchdog Timer can be set up in the system reset mode by program.

- **Timeout Value Range**

- 1 to 255
- Second

- **Program Sample**

Watchdog Timer can be set to system reset after 5-second timeout.

2E, 87	
2E, 87	
2E, 07	
2F, 08	Logical Device 8
2E, 29	Set WDT Function Enable
2F, 20	
2E, 30	Activate WDT
2F, 01	
2E, F4	Set Value
2F, 05	Set 5 second of timeout

Watchdog Timer

Start



Un-Lock WDT: O 2E 87; Un-lock super I/O
 O 2E 87; Un-lock super I/O



Select Logic device: O 2E 07
 O 2F 08



Set WDT Function: O 2E 29
 O 2F 20



Activate WDT: O 2E 30
 O 2F 01



Set base timer: O 2E F4
 O 2F M; M=00, 01, 02...FF (Hex), Value=0 to 255



WDT counting



Re-set timer: O 2E F4
 O 2F M; M=00, 01, 02...FF



IF No re-set timer : WDT time-out, generate RESET

IF to disable WDT O 2E 30
 O 2F 00; Can be disable at any time

APPENDIX B

PCI IRQ ROUTING

PICMG PCI IRQ Routing

Device	ID	Slot	Int
PCI Slot 0	31	0	BCDA
PCI Slot 1	30	1	CDAB
PCI Slot 2	29	2	DABC
PCI Slot 3	NC	NC	NC

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